



CERTIFICATE NUMBER	23-2474208-PDA
EFFECTIVE DATE	26-Dec-2023
EXPIRY DATE	25-Dec-2028
ABS TECHNICAL OFFICE	Houston ESD - Electrical

## CERTIFICATE OF

# Product Design Assessment

This is to certify that a representative of this Bureau did, at the request of

## **KOBELT MANUFACTURING CO. LTD.**

located at

**8238 129TH STREET, , SURREY, Canada, V3W 0A6**

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

**Product:**            **Steering Equipment and Control System**  
**Model:**            **6300-0100 Controller, 6300-0200 Station, 6301-0100 Electronic Helm**  
**Endorsements:**  
**Tier:**                **5 - Unit Certification Required**

This Product Design Assessment (PDA) Certificate remains valid until 25/Dec/2028 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

American Bureau Of Shipping

*Soheni Haque*

Soheni Haque, Sr. Managing Principal Engineer

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010)

**KOBELT MANUFACTURING CO. LTD.**

8238 129TH STREET

SURREY B.C.

Canada V3W 0A6

Telephone: 604-572-3935

Fax: 604-590-8313

Email: ekaterinaw@kobelt.com

Web: www.kobelt.com

---

**Tier: 5 - Unit Certification Required**

---

**Product:** Steering Equipment and Control System  
**Model:** 6300-0100 Controller, 6300-0200 Station, 6301-0100 Electronic Helm  
**Endorsements:**

**Intended Service:**  
Steering Gear Control System for Marine & Offshore Applications.

**Description:**  
Steering systems use an electronic helm and a microprocessor, which converts electric signals to mechanical/hydraulic controlling of the rudder.

**Rating:**

1. 6300-0100 Controller
  - 1) Operating Voltage: 12 - 24 Vdc
  - 2) Operating Current @ 24 Vdc: Max 0.2A
  - 3) Valve Operating Voltage: 12 - 32 Vdc
  - 4) Product Weight: 0.3 kg
  - 5) IP Rating: IP20
2. 6300-0200 Station
  - 1) Operating Voltage: 12 - 24 Vdc
  - 2) Operating Current @ 24 Vdc: Max 0.35A (without SBW wheel), Max 1.35A (with SBW wheel)
  - 3) Product Weight: 0.65 kg
  - 4) IP Rating: IP56 - Above Console, IP20 - Below Console
3. 6301-0100 Electronic Helm
  - 1) Tactile feedback: 14.8 ft-lbs [20Nm] (max)
  - 2) Operating speed: 120 rpm (max)
  - 3) Output: 14 bit
  - 4) Connection: CANbus
  - 5) Termination: two 5 pin – M12 connectors
  - 6) Supply voltage: 9-36 VDC
  - 7) Power requirement: 17 W (max)
  - 8) Compass safe distance: 0.59 in [1.5 cm]
  - 9) Ingress protection: IP67
  - 10) Ambient temperature: 5°F...+131°F [-15 °C... +85 °C]
  - 11) Weight: 4.5 kg

**Service Restriction:**

1. Unit Certification is required for this product. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.
2. The steering control systems that are computer-based systems are to comply with Section 4-9-3 and are to be considered system category III as per 4-3-4/13.9 and 4-9-3/Table 1 in the ABS Rules for Building and Classing Marine Vessel Rules (2023).
3. The following tests are to be specifically witnessed by the attending Surveyor as per 4-9-3/Table 2, 3.5, 3.6, 3.7, and 4.1, 4.2 of the ABS Rules for Building and Classing Marine Vessels (2023):
  - (i) Integration Test, Fault Simulation, and Factory Acceptance Test,
  - (ii) On-Board Complete System Test and On-Board Integration Test.

**Comments:**

1. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
2. The provision of the display & alarms as required by 4-3-4/15 Table 1 (Steering Gear Instrumentation) of the

**KOBELT MANUFACTURING CO. LTD.**

8238 129TH STREET

SURREY B.C.

Canada V3W 0A6

Telephone: 604-572-3935

Fax: 604-590-8313

Email: ekaterinaw@kobelt.com

Web: www.kobelt.com

**Tier: 5 - Unit Certification Required**

---

Marine Vessels Rules as applicable are to be verified for each project.

**Notes/Drawing/Documentation:**

Drawing No. 6300-0101-ES, Electronic Schematic - Digital Controller Board, Revision: C, Pages: 49

Drawing No. 6300-0201-ES, Electronic Schematic - Digital Station Board, Revision: B, Pages: 19

Drawing No. 6300-0202-ES, Electronic Schematic - Digital Station Board, Revision: C, Pages: 20

Drawing No. 6301-0105, TFD Steering unit, Revision: D, Pages: 2

Drawing No. DATASHEET, Datasheet; Digital Steering Controller, Revision: C, Pages: 2

Drawing No. DATASHEET, Datasheet; Digital Steering Controller, Revision: B, Pages: 2

Drawing No. Master List, Revision: A, Pages: 1

Drawing No. SOP-026, Control of Programmable Electronic Systems, Revision: 2, Pages: 11

Drawing No. SPC-006, Functional Specification; Mighty Helmsman System, Revision: A, Pages: 143

Drawing No. SS0185-BD, Block diagram; Mighty Helmsman steering system, Revision: A, Pages: 2

Drawing No. Manual, Mighty Helmsman Steering System, Revision: B, Pages: 123

Test Report 30.00.21010-2, Corrosion Test and Salt Mist with performance check, Test Laboratory - LabTest Certification Inc., Date of Issue: April 18, 2022, Revision: 1, Pages: 13

Test Report 30.00.21114-1, Vibration Test, Test Laboratory - LabTest Certification Inc., Date of Issue: September 29, 2022, Revision: 0, Pages: 42

Test Report 30.00.21599-1, Damp Heat, Dry Heat, Low Temp, Power supply variation, Extreme Power supply, Insulation resistance, Test Laboratory - LabTest Certification Inc., Date of Issue: March 22, 2023, Revision: 0, Pages: 21

Test Report E10996-2105, IP Testing - IP 56 & IP 20, EMC Test Laboratory - QAI Laboratories Ltd, Date of Issue: March 14, 2022, Revision: 1, Pages: 26

Test Report E10996-2109, Immunity Testing, Compass Safe Distance, and Acoustic noise, Power Supply failure, EMC Test Laboratory - QAI Laboratories Ltd, Date of Issue: February 10, 2022, Revision: 1, Pages: 38

Test Report E10996-2303, EMC: Radiated/Conducted Emissions, Radiated/Conducted Immunity, Test Laboratory - QAI Laboratories, Date of Issue: October 20, 2023, Revision: 1, Pages: 28

Test Report RPT-001, Kobelt Steering System & Software - FAT & Sea Trials test report for Kobelt steering system dated 27 July 2022, Revision: C, Pages: 154

**Terms of Validity:**

This Product Design Assessment (PDA) Certificate remains valid until 25/Dec/2028 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

**STANDARDS****ABS Rules:**

2023 Rules for Conditions of Classification, Part 1 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following:

2023 Marine Vessels Rules: 4-3-4/13.1, 4-3-4/15, 4-9-3/5, 4-9-3/9, 4-9-3/11, 4-9-9/13, 4-9-9/15, 4-9-9/Table 1 & Table 2.

2023 Rules for Conditions of Classification, Part 1 - Offshore Units and Structures: 1-1-4/9.7, 1-1-A2, 1-1-A3, which covers the following:

**KOBELT MANUFACTURING CO. LTD.**

8238 129TH STREET

SURREY B.C.

Canada V3W 0A6

Telephone: 604-572-3935

Fax: 604-590-8313

Email: ekaterinaw@kobelt.com

Web: www.kobelt.com

**Tier: 5 - Unit Certification Required**

---

2023 Mobile Offshore Units Rules: 4-3-4/5.and 6-1-1/13

**National:**

N/A

**International:**

N/A

**Government:**

N/A

**EUMED:**

N/A

**OTHERS:**

N/A